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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/688,984   | 10/21/2003  | Hirofumi Muranaka    | 2635-187            | 6880             |
| 23117  | 7590        | 10/26/2005           | EXAMINER            |                  |
| NIXON & VANDERHYE, PC<br>901 NORTH GLEBE ROAD, 11TH FLOOR<br>ARLINGTON, VA 22203 |             |                      | CAZAN, LIVIUS RADU  |                  |
|  |             |                      | ART UNIT            | PAPER NUMBER     |
|  |             |                      | 3729                |                  |

DATE MAILED: 10/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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|                              |                                      |  |  |
|------------------------------|--------------------------------------|--|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/688,984 | <b>Applicant(s)</b><br>MURANAKA ET AL. |  |
|                              | <b>Examiner</b><br>Livius R. Cazan   | <b>Art Unit</b><br>3729                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 October 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) 2 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Priority***

1. The claim of foreign priority is acknowledged. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Information Disclosure Statement***

2. The IDS received on October 21, 2003 is acknowledged. The IDS meets the requirements of 37 CFR 1.97 and 1.98 and therefore the references listed therein have been considered.

### ***Specification***

2. The disclosure is objected to because of the following informalities: on page 7, line 18, "100" should read "200." Appropriate correction is required.
3. Claim 2 is objected to because of the following informalities: "clam" should read "claim." Appropriate correction is required.

### ***Claim Rejections***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

***Claim Rejections - 35 USC § 102***

6. Claims 1-3 and 5-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Kin (U.S. Patent Number 4,575,343).
- a. Regarding claims 1 and 2, Kin discloses the same method as the applicant, including press-fitting/preseating a copper core member (21,49,108) into a metal cup (14) (col. 4, lns. 27-38) and performing a cold-forging process on the resulting assembly (Figs. 1e,1f) to form a small diameter portion at the closed end of the metal cup" (col. 1, ln. 67 to col. 2, ln. 11; col. 4, lns. 27-44).
  - b. Per claim 3, Kin discloses "cutting [...] copper wire into individual copper pieces (slug 21)" (col. 4, lns. 10,11).
  - c. Regarding claims 5-8, the press-fitting/preseating operation disclosed by Kin is deemed inherently capable of removing a rough edge or burr from the core. A force is applied axially (col. 4, lns. 27-38) to the core

(21,49,108), thereby removing roughness of the core ends and allowing for a smooth fit of the core within the cup.

- d. Regarding claims 9-12, "The press-fitting step is carried out without using oil" (col. 4, Ins. 5-9, 14-16, 45-52). Kin acknowledges the importance of not having any contaminants (such as oil) between the core and the cup and specifies that they should both be cleaned prior to press-fitting the core into the cup. This operation (cleaning cup and core and then press-fitting without oil) is deemed inherently identical to press-fitting, cutting, and removing without oil.

***Claim Rejections - 35 USC § 103***

7. Claim 4 rejected under 35 U.S.C. 103(a) as being unpatentable over Kin in view of Matesco (U.S. Patent Number 4,803,395). Kin discloses the same invention as the applicant except for the requirement that the cup be made of nickel-base alloy. Matesco teaches the use of nickel alloys in the manufacturing of the cup. (col. 2, In. 35). It would therefore have been obvious to one of ordinary skill in the art at the time of the invention was made to manufacture the metal cup out of nickel alloy in order to take advantage of any useful properties nickel alloys may have in high temperature combustion engines (col. 1, Ins. 17-39).

8. In the event the applicant disagrees that the preseating operation performs an operation equivalent to removing a rough edge or burr, Claims 5-8, 11 and 12 are alternatively rejected under 35 U.S.C. 103(a) as being unpatentable over Kin.
  - a. Regarding claims 5-8, Kin discloses the same invention as the applicant except for a removing step such as upsetting by punching or hammering before the press-fitting of the core into the cup. Kin teaches the squaring (punching using a tool and die) of a piece of metal (column 3, lines 45-59) to remove a rough surface resulting from a cutting operation. Although Kin does not apply this step to the copper core, it would have been obvious to one of ordinary skill in the art at the time the invention was made to perform a removing step such as that disclosed by applicant so that the core member may then be smoothly press-fitted into the cup.
  - b. Regarding claims 11 and 12, Kin teaches the same invention as the applicant, including the absence of oil. Applicant's attention is directed to the corresponding rejection in paragraph 6 above.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: U.S. Patents 4,803,395, 5,743,777, 4,695,759, 4,904,216, and 4,526,551, 4,606,730.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Livius R. Cazan whose telephone number is (571) 272-

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8032. The examiner can normally be reached Monday through Friday between 8:00AM and 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on (571)272-4690. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Irc

L.R.C. 10/24/2005



PETER VO  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3700